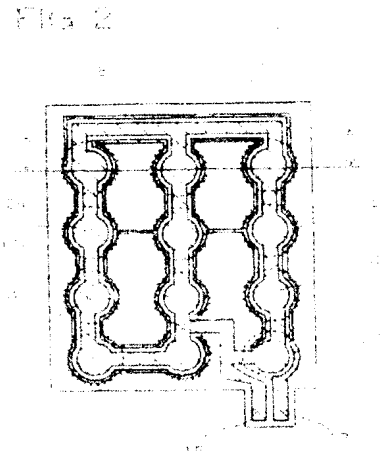
REMARKS/ARGUMENTS

The amendments to Claims 16 and 22 are supported by paragraph [0017] at specification page 7 and paragraph [0043] at specification pages 20-21. No new matter has been entered.

The rejection of claims 16-19, 21-24 and 26 under 35 U.S.C. 103(a) as being unpatentable over JP 2002-56737 (Seiko) is traversed.

As noted by the above amendment, in the illuminated switch of claim 16 and the method for producing an illuminated switch of claim 22, the first power supply wire has two or more systems of lines connected to the first power supply terminal that can be used independently of each other to supply power and illuminate the light emitting portions, and the second power supply wire has two or more systems of lines connected to the second power supply terminal that can be used independently of each other to supply power and illuminate the light emitting portions. As shown for example in Figure 2 herein:



and discussed in paragraph [0043] at specification pages 20-21, this arrangement provides for reliable operation even in the case of an unexpected increase in resistance, wire breakage or the like in one of the systems of lines due to, e.g., bending caused by keystroke operation, etc.:

> For the structure of such a switch illuminating EL sheet 7 other than the respective constituting layers, a structure similar to a typical EL sheet may be adopted. Further, regarding the power supply wires 12b connecting the electrode portions 12a corresponding to the shape of the light emitting portions 14 of the back electrode layer 12 and the power supply wire 16 connecting the transparent electrode layer 9 having a shape corresponding to the light emitting portions 14, it is preferable to form more than two systems of wires. The power supply wires 12b for the back electrode and the power supply wire 16 for the transparent electrode, which are shown in FIG. 2, are both have two systems of wires. With such a structure, even when increase in resistance value, wire breakage or the like occurs on one of the two systems due to bending caused by formation or keystroke, hitting stress or the like, it is possible to suppress failure of the EL sheet 7 to light. Thus, the reliability of the switch illuminating EL sheet 7 can be increased further. Moreover, if having two or more independent light emitting portion patterns, it is also possible to independently light each light emitting portion by two or more systems of wires.

Seiko teaches an illuminated switch including a plurality of switch mechanism portions, a plurality of key top portions, and an EL sheet (E) arranged between the plurality of switch mechanism portions and the plurality of key top portions. The EL sheet (E) includes a transparent substrate (1), a transparent electrode layer (2), a light emitting layer (3), an insulating layer (4), and a back electrode layer (5). However, Seiko does not disclose a first power supply wire for the transparent electrode layer, a first power supply terminal for the transparent electrode layer, a second power supply wire for the back electrode layer, and a second power supply terminal for the back electrode layer. See, e.g., FIG. 1, FIG. 2 and FIG. 3 of Seiko, which do not show power supply wires for the electrodes or power supply terminals for the electrodes.

Even if the EL sheet (E) of Seiko was assumed to include power supply wires for the transparent electrode layer and the back electrode layer, in typical configurations each of the power supply wires for the transparent electrode layer and the back electrode layer are usually one line. Seiko does not disclose a power supply wire for the transparent electrode layer having two or more systems of lines (wires) or a power supply wire for the back electrode layer having two or more systems of lines (wires). Furthermore, Seiko nowhere suggests that two or more systems of lines for the transparent electrode layers should be connected to a first power supply terminal so as to enable their independent use, or that two or more systems of lines for the back electrode layers should be connected to the second power supply terminal so as to enable their independent use.

Accordingly, Seiko does not present a *prima facie* case of obviousness against claims 16-19, 21-24 and 26 under 35 U.S.C. 103(a) for the reasons presented above. As such, the rejection should be reconsidered and withdrawn.

The rejection of claims 1, 2, 6, 7, 9-15, 20 and 25 under 35 U.S.C. 103(a) as being unpatentable over JP 2002-56737 (Seiko) and JP 6-70195 U (Mitsubishi Cable) is traversed.

The switch illuminating EL sheet in claim 1 comprises a light emitting layer having EL phosphor particles, a transparent electrode layer constituted of the conductive polymer, and a transparent protection film having the thickness of 10 μm to 60 pm. The EL phosphor particles have a damp-proof coating formed on a surface thereof. As recognized by the Examiner, Seiko does not disclose Applicants' thickness of the transparent protection film or use of EL phosphor particles that have a damp-proof coating.

As discussed in the present specification, the switch illuminating EL sheet of present claim 1 suppresses wire breakage and other failures without impairing reliability or the "clicking feeling" of the key switch. Both the particular claimed thickness of the transparent

protection film and the use of damp-proof coated-EL phosphor particles contribute to this success.

When applying the transparent electrode layer constituted of the conductive polymer to the EL sheet, in order to achieve a good balance between durability to keystroke stress and flexibility (which affects the "clicking feeling") the thickness of the transparent protection film, when set at 10 μm to 60 μm, provides optimum results. If the transparent protection film has a thickness smaller than 10 μm, wire breakage or failure to light due to keystroke stress is not adequately suppressed. On the other hand, if the transparent protection film has a thickness larger than 60 μm, the clicking feeling is impaired.

EL phosphor particles are vulnerable to moisture, and have a weakness in that they easily deteriorate upon contact with the moisture in air. This deterioration is prevented in the present invention by coating the particles themselves with a damp-proof coating, which provides a special benefit - other options, such as covering the entire EL sheet with a damp-proof film or a moisture absorption film, makes the EL sheet too thick, thereby negatively impacting the "clicking feeling" of the key switch.

As mentioned above, Seiko does not disclose or suggest Applicants' claimed thickness of the transparent protection film, nor does the reference recognize that this thickness is a result-effective variable that affects the "clicking feeling" obtained. Rather, Seiko modifies the clicking feeling of his switch based on the presence of "cut portions" (10).[1] Furthermore, Seiko does not disclose a light emitting layer having damp-proof coated EL phosphor particles as claimed and does not recognize or suggest that the use of such coated particles can minimize the total thickness of the EL sheet, which as explained above influences clicking feeling.

[1] See US 2002/0030987, based on the same Japanese priority application as JP 2002-56737.

Mitsubishi Cable, cited to make up for that lacking in Seiko, only teaches damp-proof coated EL phosphor particles. Mitsubishi Cable does not disclose or suggest that the total thickness of the EL sheet affects clicking, or that it can be made thinner by using a light emitting layer having damp-proof coated EL phosphor particles: the EL sheet shown in Mitsubishi Cable comprises a sealing film (1) formed by a polyester film or a polyolefin film covering the EL sheet, adding to the thickness of the EL sheet. Further, Mitsubishi Cable does not disclose or suggest Applicants' claimed thickness of the transparent protection film, or the benefits it provides.

Accordingly, and for these reasons, the combination of Seiko and Mitsubishi Cable does not present a *prima facie* case of obviousness against claims 1, 2, 6, 7, 9-15, 20 and 25 under 35 U.S.C. 103(a), and the rejection should be reconsidered and withdrawn.

Finally, JP 8-20772 (Mitsubishi Materials), cited in combination with Seiko and Mitsubishi Cable against claims 3,4, and 8, does not provide the disclosure necessary to make up for that lacking in Seiko and Mitsubishi Cable. Mitsubishi Materials only teaches EL phosphor particles having a mean particle diameter of 25 mm to 40 mm. The reference does not disclose a switch illuminating EL sheet or damp-proof coated EL phosphor particles.

Accordingly, and for the reasons presented above, Applicants submit that the pending claims are allowable over the cited references. Early notification to this effect is respectfully requested.

Respectfully submitted,

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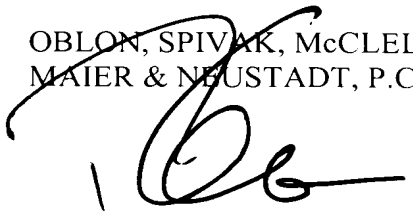
MAIER & NEUSTADT, P.C.



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